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| APPLICATION NO.                        | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/808,618                             | 03/24/2004  | Xingwu Wang          | XW-672              | 8192             |
| 23575                                  | 7590        | 02/06/2007           | EXAMINER            |                  |
| CURATOLO SIDOTI CO., LPA               |             |                      | KOSLOW, CAROL M     |                  |
| 24500 CENTER RIDGE ROAD, SUITE 280     |             |                      | ART UNIT            | PAPER NUMBER     |
| CLEVELAND, OH 44145                    |             |                      | 1755                |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE   |                      | DELIVERY MODE       |                  |
| 3 MONTHS                               | 02/06/2007  |                      | PAPER               |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/808,618             | WANG ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | C. Melissa Koslow      | 1755                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 November 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12, 15-41 and 99-155 is/are pending in the application.
- 4a) Of the above claim(s) 20-25, 31, 106-120 and 129-151 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12, 15-19, 26-30, 32-41, 99-105, 121-128 and 152-155 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

This action is in response to applicants' amendment of 29 November 2006. The amendments to the specification have overcome the objections to the disclosure and specification. The amendment to claim 8 has overcome the objection to this claim. Applicant's remaining arguments have been fully considered but they are not persuasive.

Claims 20-25, 31, 106-120, 125 and 129-151 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse.

Claims 1-12, 15-19, 26-41, 99-105, 121-128 and 152-155 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no disclosure in the specification in the elected composition of magnetic nanoparticles disposed within a polymeric carrier. Pages 166-181 teach drug particles in a polymeric carrier that is attached to a substrate comprising magnetic nanoparticles. This is different from what is being claimed. Pages 181-186 teach particles of anti-microtubule agent attached magnetic nanoparticles. These particles do not read upon the claimed particles. The amounts in of claims 17-19 apply to nanoparticles in a binder, but the specification consider particles in a binder as distinct from particles dispersed in a polymeric carrier, as shown by the fact applicants' present one set of claims to the binder and another set to the carrier. Thus specification does support the claimed composition.

The amounts of claims 29 and 30 refer to the percentage of nanoparticles in a collection of particles (pg. 43), not in the claimed polymeric carrier composition. There is no disclosure in the specification of nanoparticles of iron, nitrogen and a third distinct atom. The specification only teaches iron nitrides, which only contain distinct atoms. There is no disclosure in the specification of nanoparticles of iron, nitrogen and aluminum. The specification teaches iron nitrides or aluminum nitrides. Pages 32 and 49-52 teach the composition comprising the nanoparticles has the properties of claims 99-105 and 152-155, not that the nanoparticles have these properties as claimed.

Applicants have not shown where the elected composition is found in the specification. The teachings in lines 11-13 on page 179 simply states that the nanoparticles may be disposed in a medium, but there is no indication that this medium is the polymeric carriers of claims 121-128 or even how it relates to the teachings in the rest of pages 166-181.

Applicants argument with respect to binder carrier are not convincing since non-elected claims 20-22 and 138 are directed to the combination of a binder carrier and the nanoparticles. Thus applicants consider the elected claims as being to a different invention than that in claims 20-22 and 138.

The amendment to claims 29 and 30 do not overcome the rejection since it is based on the elected species which falls within the composition of claim 1. Applicants have not show where the claimed elected subject matter is found in the specification.

Applicants' argument that there is no claim reciting nanoparticles of iron, nitrogen and a third distinct atom is incorrect. Claim 11 teaches reciting nanoparticles of iron, nitrogen and a third distinct atom, where the third distinct is the elements in claim 8. One ordinary skill in the

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art would also understand that the use of “third” is being used in the conventional numerical and grammatical manner for this term and is not referring the use of this term as in claim 9. To clarify any misunderstanding, what the Examiner meant was there is no teaching in the specification of nanoparticles of iron, nitrogen and a second distinct atom. The generic disclosures on ages 35-38 discussed specific composition of A and B, not Fe, B and nitrogen. Page 39 discussed specific composition of B and nitrogen, not Fe, B and nitrogen. Page 40 discussed composition of A and C and optionally B, but does not discuss any specific compositions of Fe, B and nitrogen. Without any specific embodiments, there is a question if the specification reasonable conveys to one of ordinary skill in the art that applicants had at the time of invention, magnetic nanoparticles of nitrogen, Fe and B. Applicants have not show where the claimed elected subject matter is found in the specification.

Applicants argue that pages 59-61 teach the claimed nanoparticles. This is incorrect. These pages teach FeAlN thin films which are different than nanoparticles that can be dispersed in a polymeric carrier. Applicants have not show where the claimed elected subject matter is found in the specification.

Applicants arguments with respect to claims 99-105 and 152-152-155 is not convincing since the full quote of lines 12-13 on page 32 is “The magnetic field is preferably imposed until the nano-sized particles within former 78 (and the material with which it is admixed) have a mass of at least about 0.001 gram”. While the argued pages do state what applicants’ are arguing, the argued nanomagnetic material is clearly the composition comprised of the nanoparticles as indicated in the last paragraph on page 48. The wording in the first paragraph also indicates it is the layer containing the particles that has the given properties, not that the particles have the

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given properties. Applicants have not show where the claimed elected subject matter is found in the specification.

Applicants arguments have not overcome the rejection with respect to this argument.

Applicants' arguments are not convincing for the reasons given above and thus the rejection is maintained.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6, 15, 17-19, 28-30, 32-41, 121 and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent application publication 2005/0039848 in view of JP 6-199525.

U.S. patent application publication 2005/0039848 teaches a polymeric composition, such as poly(ethylene-vinyl acetate), containing 20 or 50 wt% of magnetic particles having a size of 1-40 nm. The reference teaches the magnetic particles can be composed of any known ferromagnetic material. JP 6-199525 teaches rare earth-iron-nitrogen nanosized magnetic particles. The taught particles have a size of 10 nm or less (para 0004). One of ordinary skill in the art would have found it obvious to use the nanoparticles of JP 06-199525 having a particle size in the range of 1-40 nm as the magnetic nanoparticles in U.S. patent application publication 2005/0039848. The taught rare earth-iron-nitrogen nanosized magnetic particles are identical to those claims and thus must have a squareness, saturation magnetization, phase transition temperature and average coherence length that falls within the claimed ranges, absent any showing to the contrary.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the claims are directed to a generic composition comprising magnetic nanoparticles in a polymeric carrier, where the nanoparticles contain nitrogen and two other elements. Thus the field of applicants' endeavor is polymeric compositions containing magnetic materials and one would look to the magnetic materials art for the composition of the magnetic particles used in the composition of U.S. patent application publication 2005/0039848 since this reference teaches the use of any nanosized magnetic materials. The argued intended purpose of the claimed composition does not overcome the rejection since the references suggest a composition that falls within the scope of the claimed composition.

Applicants' argument with respect to the proposed modification is not convincing since the rejection is to modify U.S. patent application publication 2005/0039848, not JP 06-199525 as argued. There has been no showing that the use of the articles in JP 06-199525 as the magnetic particles in the composition of U.S. patent application publication 2005/0039848 would render

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the resulting composition unsatisfactory as an adhesive composition that can be reversible separated.

Applicants' comments with respect to the particle size in JP 06-199525 is noted by paragraph [0004] teaches the production of particles having a particle size of 10 nm. Applicants arguments with respect to the reference only teaching articles having only two distinct elements is not understood since the reference clearly teaches rare earth-iron-nitrogen magnetic particles, rare earth-iron-boron magnetic particles and rare earth-iron-carbon magnetic particles. Claim 16, which teaches the argued Al-Fe-nitride, was not rejected and thus this argument is moot. Applicants' arguments are not convincing for the reasons given above and thus the rejection is maintained.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
February 2, 2007

*[Signature]*  
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Primary Examiner  
Tech. Center 1700